portion, 29 of the transverse, 10 of the third part, 8 of the thoracic aorta, and 9 of the abdominal aorta. 74 of the cases were in males.

Certain of the conclusions arrived at, though similar to those of other writers on the subject, are worth restating. Aneurisms of the first portion of the arch arise with great frequency immediately above the heart valves, from the right or dextro-anterior aspect of the artery, and take a direction to the right, presenting near the sternum in the third intercostal space. The pulmonary artery or superior cava are the structures most frequently compressed, and rupture, which occurs seldom, is into either pericardium or right pleura. Aneurisms of the second portion of the arch take either an upward direction and present beneath the first bone or the sternum, or in the first and second right intercostal spaces, or pass directly back, compressing the trachea. The left recurrent nerve it sometimes compressed, the vena innominata being seldom, the vena cava superior never, compressed; rupture occurs rarely, and is either into the left pleura, left bronchus, or the trachea.

Aneurisms of the third portion originate usually just below the orifice of the left subclavian and pass backward and to the left, lying to the left of the spinal column, commonly eroding more than one of the upper dorsal vertebræ; the œsophagus is more frequently subjected to pressure, and the termination is often by rupture into the left pleura or the œsophagus.

Sixty of the eighty-eight cases occurred in the ascending or transverse portions of the arch, and in only ten of these cases was there incompetence of the aortic valves. We would have been glad to see a statement concerning the size of the heart. Five tables give the details of the cases as affecting the various regions of the aorta. A short but interesting historical note precedes the substance of the paper. W. O.

MILK ANALYSIS AND INFANT FEEDING. A Practical Treatise on the Examination of Human and Cow's Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants. By ARTHUR V. MEIGS, M.D., Physician to the Pennsylvania and to the Children's Hospital. 12mo. pp. 102. Philadelphia: P. Blakiston, Son & Co., 1885.

THE author of this work has made the laudable attempt to found his views on infant feeding on a strictly scientific basis; in other words, on an accurate analysis of human milk, being convinced that all artificial foods must approach the composition of the infant's natural food to have a physiological recommendation for their use.

The author finds that as a result of his analysis of human milk, there is "never more than one per cent. of caseine." This statement is entirely at variance with all previous conclusions; and as everything is made to rest on it, must be subjected to rigid scrutiny before it can be accepted.

It is impossible, in discussing the subject, to avoid comparison with the results and methods of Prof. Albert Leeds. The investigations of the latter writer are among the most numerous, searching, and complete ever published on this continent, if they do not actually occupy the very first position. Leeds urges the following objections against Meigs's method:

(1) That evaporation of milk over a water-bath, in order to obtain the *total solids*, is slow, and not entirely accurate. We do not believe that perfect drying can be thus effected, and the method is certainly tedious.

(2) The quantity of *fat* is too large by Meigs's method, inasmuch as the milk is not treated with absolute ether, but usually by a mixture of ether and water, which takes up other matters than fats (milk-sugar). This Leeds proves to be the case, and was the conclusion we had arrived at ourselves before reading Leeds's papers at all.

(3) The treatment to get *caseine* separated from sugar does not admit of entire accuracy by reason of errors inherent in "decantation," and owing to the fact that caseine is not wholly insoluble in boiling water. We think this objection is also well taken.

As a result of analyses by Meigs's methods, the proportions of fat and milk-sugar would be too high and those of the albuminoids too low. We are surprised that Meigs seems to ignore entirely the presence of other albuminoids than caseine in human milk. But we are still more surprised that he makes the scantiest reference to the German literature of this subject. It is a well-known fact that for years, in Germany, much valuable work has been done at the agricultural stations on this very matter of milk analysis. Even Hoppe-Seyler's *Handb. der Physiolog. Chem. Anal.*, in which the subject is treated in that writer's usual able style, is not once referred to, we believe.

Such being the case, it is not to be wondered at that Meigs should take such narrow ground in regard to the *reaction* of cow's milk. We hold still, that the statement of standard works, that the reaction of cow's milk is variable, being sometimes faintly alkaline, sometimes neutral, and sometimes acid, expresses the truth in the main—*i. e.*, for milk, as it comes fresh to us for use, and that is the practical question. Meigs's tests, made at *one* dairy farm, of milk freshly drawn from the animals on *one* occasion, do not settle the question, even as to perfectly new milk; we must know whether a change in feeding, etc., will not change the reaction: in fact, we do know that such is the case. The reaction is said to change also on standing.

We notice a similar kind of oversight in the author's method of collecting his samples of human milk.

If we are to draw accurate conclusions as to the composition of milk, we must know details regarding the specimens collected, as given in Leeds's tables, or better still, perhaps, use only average milk (as we do average urine) by taking the total quantity secreted for twenty-four hours.

As to Leeds's own method, which is the Gerber-Ritthausen one, we may say, in general, that it seems to meet the case better than any yet proposed, though we do not regard the method of separation of albuminoids as wholly satisfactory. With Meigs, we fear filters where caseine is concerned. But the other methods in the process seem to answer well; and even if there be slight loss of albuminoids by the Gerber-Ritthausen method, it will still appear that Meigs's estimate of one per cent. is altogether too low for caseine, for the Gerber-Ritthausen method gives as an average about two per cent. Meigs argues that because a mixture, such as he proposes as an infant food, is, "in its appearance, taste, and reaction strikingly like human milk," there is therein a corroboration of his views. But Meigs, as well as Leeds, has shown that reliance cannot be placed on the appearance, etc., of milk to indicate its composition.

We believe in the "milk of human kindness," and that there is more of it now than among the ancients, but we do not subscribe to the logic of Dr. Meigs in his introduction; and if this chapter, and certain passages in the last one, had been omitted, it would have been better for a work aiming to be scientific. What of a statement like that on page 90? "It is well to give young infants nothing but their regular food, and not to give pieces of cake, or candy, or anything else of the kind, for the pleasure of seeing them enjoy it." Now for whom is this written, for the medical reader or the general public? For the former it is worse than superfluous. If for the latter, then we must unhesitatingly condemn the introduction of any such methods of lowering our scientific literature. It simply degrades an admirable book like this beyond all limit, and is something the profession must avoid, if it will remain true to its higher instincts.

Though it seems to us the methods and results given in this work will not all bear the closest scientific examination, we are glad that Dr. Meigs has essayed so difficult a subject. He has set a worthy example, and there is one golden page (71) in this little book, showing a moderation in spirit, and a conception of the scientific attitude, we could wish widely read and pondered upon in the medical profession. Dr. Meigs's book shows the great need for just such investigation as he has done; and the general indifference to the value of the collateral sciences; the wide-spread ignorance of chemistry, and its applications or possible applications to medicine, must be deplored by those who aspire to place the healing art on a truly scientific foundation. This book is written in a most lucid and agreeable style, and if it serves the purpose of bringing some third worker into the field to improve on all previous methods, a great end will have been served, and one in which, judging by the spirit of the book, the author of "Milk Analysis and Infant Feeding" will rejoice."

T. W. M.

THE INHALATION TREATMENT OF DISEASES OF THE ORGANS OF RESPIRATION, INCLUDING CONSUMPTION. By ARTHUR HILL HASSALL, M.D. Lond. 8vo. pp. 367. London: Longmans, Green and Co., 1885.

IF the author had accomplished nothing more than the positive demonstration by experiment of the fact that oral and oro-nasal inhalers, as hitherto constructed and used, almost wholly fail of their object, his book would be as welcome as the papers which he has from time to time contributed to the journals on this and similar subjects have been. But he has accomplished much more than this. He has given us in a convenient hand-book the results of much painstaking experimental research in the subject of medication by inhalation, including the chemistry and physics of the substances employed for this purpose, and the mechanism of the more practical of the apparatus used. In these respects his book is by far the most satisfactory of the few treating of the subject in the English language. It is also more comprehensive than the German